

Regarding “Impact of screening versus symptomatic measurement of deep vein thrombosis in a national quality improvement registry”

This important study demonstrates that if one looks for particular problems, one will find them much more often than if one does not look for them.¹ De Martino et al compared the National Surgical Quality Improvement Program (NSQIP) database to a predefined literature search, evaluating deep vein thrombosis (DVT) identified by symptomatic status or surveillance status. Of interest, the rate of DVT in NSQIP was essentially equivalent to the rate of symptomatic DVTs, whereas the rate in surveillance studies was much higher, ranging from 2.6-fold higher for gastric bypass to 14.5-fold higher for hip arthroplasty procedures. The only procedure where this relationship did not hold was for amputations, where the rate in NSQIP was much lower than both symptomatic and surveillance cohorts.

A major theme underlying the findings of this study is that DVT measures may be too “noisy” to serve as reliable hospital-quality indicators. Hospital-specific DVT rates are likely to be confounded by variation in the inclusion of upper extremity DVTs, uncertainty about when superficial phlebitis and infrapopliteal DVTs “count,” and varying thresholds for what needs to be “treated.” As highlighted by the authors, variation in the adoption of aggressive duplex screening programs in asymptomatic patients could confound DVT rates. Subtler variation in how readily hospitals obtain duplex scans for gray-area indications—fever workups, mild hypoxemia, borderline symptoms—may be an even more important source of measurement bias.

The findings of this study come as ACS-NSQIP is being increasingly adopted to assess surgical quality. Depending on how DVT is defined, an institution with an aggressive screening protocol may be labeled as a lower-quality facility due to a higher rate of DVT than one that only counts symptomatic DVT or uses the American College of Surgeons (ACS)-NSQIP for determining rates of DVT. ACS-NSQIP is an important and broadly visible national quality-improvement program. As the results of ACS-NSQIP are often widely studied and quoted, it is important that when comparing one’s own data to ACS-NSQIP, definitions need to be standardized so that proper comparisons can be made. Only then can quality be truly improved.

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REFERENCE

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Reply

We would like to thank Drs Wakefield and Birkmeyer for their insightful comments regarding our article. Their editorial emphasizes the prominent role that the American College of Surgeons-National Surgical Quality Improvement Program (ACS-NSQIP) plays nationally in quality improvement. Further, they highlight the myriad of ways in which a hospital’s deep vein thrombosis (DVT) rates can be confounded by the manner in which one looks for, and measures, this important complication.

We suspect that most practicing surgeons are acutely aware that if one looks hard enough for trouble, you’re likely to find it. Venous thromboembolism (VTE) events remain potentially preventable, thus an identifiable target for quality improvement and measurement. But, measuring results and improving quality requires that everyone “looks” for complications, and records their results, in the same manner. We agree with the group from Michigan—who are national leaders in VTE detection, measurement, and prevention,¹⁻³ that ACS-NSQIP needs standardized definitions to describe the manner in which the DVT was detected (symptomatic versus surveillance). Then, centers can understand their results in a meaningful manner to identify areas for improvement.

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